AMENDMENTS TO THE SPECIFICATION:

1. Please replace the first paragraph of the specification with the following amended paragraph:

This application is a Divisional of ~~co-pending, co-owned~~ United States patent application no. 09/520,538, filed March 08, 2000, now United States Patent No. 6,773,918, which claims the benefit of United States provisional patent application no. 60/123,659 filed March 0~~9~~8, 1999.

2. Please replace the paragraph at page 8, lines 21-31 with the following amended paragraph:

pVI401 (See, e.g., Shingler and Moore, *supra*) served as the template for amplifying Po in a reaction that included primers P*dmp*5'-*Eco*RI (5'-CCATCGCTGAATTCTGCAGCAACAG-3'), SEQ ID No. ~~8~~14 hereof, and P*dmp*3'-*Bam*HI (5'-CGCACACGGATCCAACGAGTGAG-3'), SEQ ID No. ~~9~~15 hereof. Primers were synthesized on an Applied Biosystems DNA/RNA Synthesizer 394 (Applied Biosystems, Inc. Foster City, CA) in the DNA synthesis laboratory of the Life Sciences Division at LANL. PCR was carried out on a Perkin-Elmer 9600 thermal cycler with a 2 minute denaturation step at 92° C followed by 25 cycles of one minute each at the following temperatures: 92° C, 52° C, and 72° C. The Po PCR product was digested with *Bam*HI and *Eco*RI to allow directed cloning in front of the promoterless *lacZ* gene of pRS551 for creation of the *Pdmp-lacZ* fusion of pAW51.

3. Please replace the paragraph at page 9, lines 1-12 with the following amended paragraph:

Mutagenic PCR to change the DmpR sensor domain was done by a modification of Cadwell and Joyce's method (Cadwell, R. C., and G. F. Joyce. 1995. Mutagenic PCR, p. 583-589. In C. W. Dieffenbach and G. S. Dveksler (ed.), PCR Primer, A Laboratory Manual. Cold Spring Harbor Laboratory Press. Cold Spring Harbor, N.Y.). pAW50 served as template in the mutagenic PCR reaction with 25 pmoles each of the following primers: dmpR5'-75 (5'-

GCCGTCGATTGATCATTTGG-3'), SEQ ID No. 10~~16~~ hereof, and dmpR3'-976, (5'-TGTCCATCATATTGCGCACG-3'), SEQ ID No. 11~~17~~ hereof. In addition, the reaction contained 5 mM $MgCl_2$, 0.5 mM $MnCl_2$, 0.2 mM dATP and dGTP, 0.8 mM dCTP and dTTP, 10 mM Tris-HCl (pH 8.3), 50 mM KCl, 0.001% (wt/vol) gelatin, and 5 units of AmpliTaq polymerase (Perkin Elmer, Foster City, CA). The mutagenic PCR amplification cycle followed a 2 min. denaturation at 92° C and consisted of 30 cycles of 94° C (10 s), 56° C (20 s) and 72° C (1 min.).

4. Please replace the paragraph at page 11, lines 4-16 with the following amended paragraph:

Figure 2a shows the results of a β-galactosidase assay for the detection of 2-chlorophenol, while FIG. 2b shows the assay for 2,4-dichlorophenol using the bacterial test strain containing either wild type DmpR or the derivative DmpR-B21 (SEQ ID No. 3~~ and No. 9 hereof~~), where NI indicates a negative control containing no inducer (no phenol). For all included graphs, units are β-galactosidase activity normalized for time length of assay and number of cells in assay. NI indicates a negative control containing no inducer (no phenol). Wild type DmpR has no apparent response to a 0.0025 mM solution of 2-chlorophenol (0.3 parts per million), whereas DmpR-B21 responds well with a 60-fold increase in β-galactosidase activity. 2-chlorophenol is a natural inducer of the wild type DmpR protein, as shown by its signal production (97 units) when exposed to a 0.025 mM solution of 2-chlorophenol. A more complex phenol, 2,4-dichlorophenol, elicits a response from DmpR-B21 at 0.025 mM (4 parts per million), but not from the natural DmpR protein. Note changes in axis between graphs.

5. Please replace the Sequence Listing with the substitute Sequence Listing submitted herewith. The substitute Sequence Listing is submitted both in "mark-up" form, showing the deletion of several sequences from the Sequence Listing, and in "clean" form for the Examiner's convenience. Submitted concurrently herewith, and in compliance with the rules, are computer readable copies of the "mark-up" and "clean" substitute Sequence Listings (two files on CD-ROM), each of which is identical, respectively, to the "mark-up" and "clean" paper copies of the substitute Sequence Listing submitted herewith. The substitute Sequence Listing includes no new matter.